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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/817,925

Applicant(s)

GODKIN, MIKHAIL

Examiner

Judson H Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-14 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-7, 11, 15, 16, 18 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 8-10 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the open-ended actuator having first and second cavities as recited in claims 18 and 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Also the cylindrical shaped actuator recited in claim 22 and the rectangular shaped actuator recited in claims 21 and 26 must be shown.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 101***

Claim 18 and 20 are rejected under 35 U.S.C. 101 because it would be impossible to build such a device. Applicant is claiming an open-ended actuator having first and second cavities between two ends of a permanent magnet and the core. As can be seen from Applicant's figure 2, there is no place for a second cavity.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 15, 21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Helms 3,619,673 (cited by Applicant). Helms discloses a voice coil actuator having a core 20, a

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permanent magnet 36, 38, a moving coil 50 and a compensating coil 70 as shown in figure 2 wherein the compensating coil interacts with the moving coil as a function of the position of the moving coil as described in column 4 lines 30-54.

In regard to claims 3, 4 and 24, see Helms figure 2.

In regard to claims 15 and 21, see Helms figure 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6, 22, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms in view of Gillott et al. 3,863,082 (cited by Applicant). Helms discloses the actuator but does not disclose the permanent magnet positioned with respect to the core to define a cavity where the compensating coil is positioned. However Gillott et al. discloses such a cavity as shown in figure 1. While Gillott et al. controls his compensating coil based on the time dependent pressure build-up in a patient's lungs as described in column 7 lines 51-62, the purpose of both compensating coils is the same as described in Helms column 4 lines 20-29 and in Gillott et al. column 7 lines 16-26. (Helms refers to a bucking coil which reduces the net flux in leg 28, and Gillot et al. refers to an auxiliary coil where the direction and magnitude of current flow can be varied to add flux to take the core out of saturation.) Since Gillot et al. and Helms are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a cavity for a compensating coil

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instead of having the compensating coil wrapped around the length of the core in order to protect the compensating coil from damage and thus increase the reliability of the device.

In regard to claim 6, see Gillott et al. figure 1.

In regard to claim 22, see Gillott et al. figure 3.

In regard to claim 26, see Helms figure 1.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helms as modified by Gillott et al. as applied to claim 5 above, and further in view of Sim 5,177,383 (cited by Applicant). Helms as modified by Gillott et al. discloses the actuator but does not disclose compensating coils on both ends of the core. However Sim teaches this idea in column 3 lines 32-46. Since Sim and Helms as modified by Gillot et al. are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have placed compensating coils in cavities at both ends of the permanent magnets in order to improve the flux compensation of the actuator and thus improve the efficiency of the motor.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helms in view of Morcos et al. 5,677,963. Helms discloses the actuator but does not disclose a position sensor responsive to the position of the moving coil. However Morcos et al. teaches the use of position sensors in column 5 lines 51-57. Since Morcos et al. and Helms are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a position sensor in the actuator of Helms in order to make the positioning of the movable member more precise and thereby increase the usefulness of the actuator.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helms in view of Yuan 5,777,403. Helms discloses the actuator but does not disclose the actuator being open-ended. However Yuan teaches that open-ended actuators are known in the art in column 1 lines 34-48. Yuan also teaches a problem of movable member support with open-ended actuators in column 1 lines 49-65. Since Yuan and Helms are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have made an open-ended variant of the actuator of Helms for situations where a closed-ended actuator could not be used, thus increasing the usefulness of the actuator.

*Allowable Subject Matter*

Claims 12-14 and 19 are allowed.

Claims 8-10 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or teach an actuator having both a compensating coil positioned around a core and a compensating coil in a cavity formed between the end of a permanent magnet and the housing as recited in claims 8, 10 and 12. Helms teaches a compensating coil positioned around a core, Gillott et al. teaches a compensating coil in a cavity between the end of a permanent magnet and the housing and Sim teaches using two identical compensating coils. None of the references taken singly or in combination teaches combining a compensating coil around a core with a compensating coil in a cavity between the end of a permanent magnet and the housing,

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ  
September 13, 2002

Judson Jones  
AU 2834